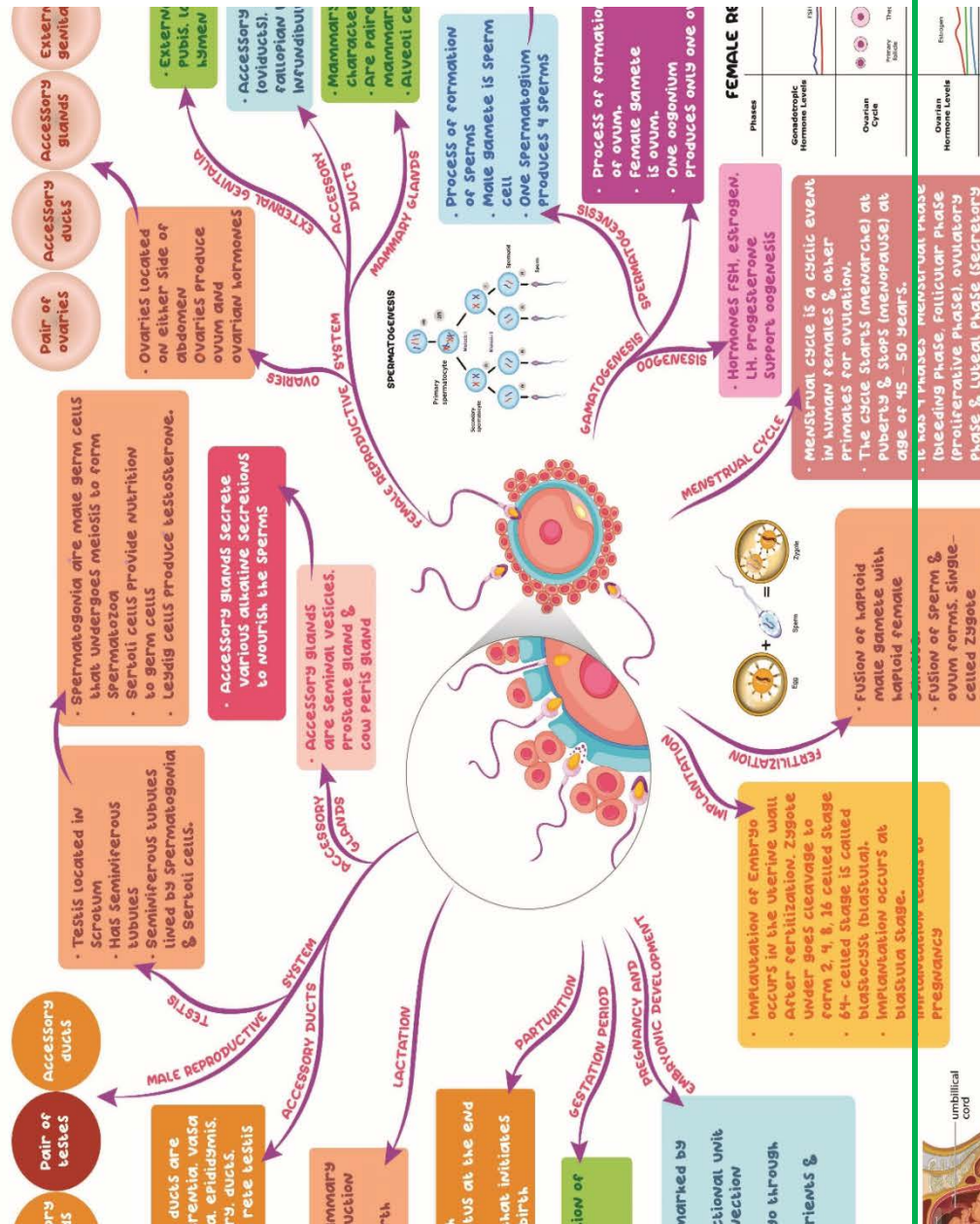
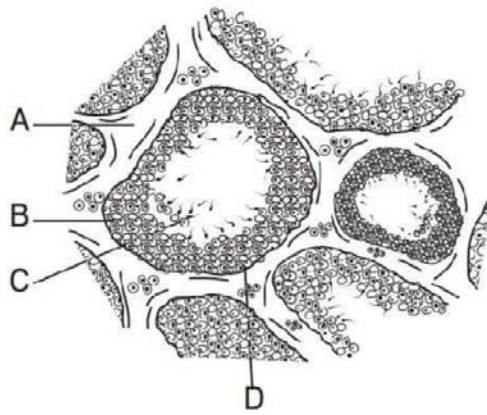
# NCERT

# CHAPTER WISE
# TOPIC WISE

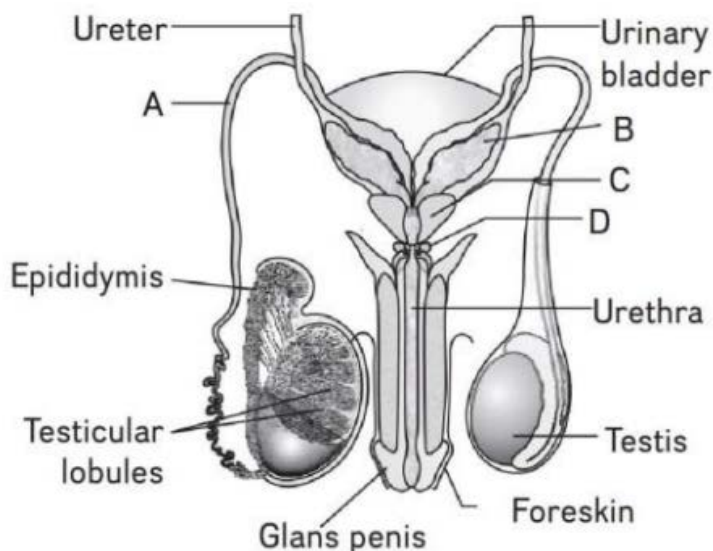
## LINE BY LINE QUESTIONS
## 2024

BY
SCHOOL OF
EDUCATORS

## NCERT LINE BY LINE QUESTIONS

The Male Reproductive System

1. The testes are situated outside the abdominal cavity within a pouch called
   (A) urethra (B) scrotum (C)penis (D)none of these
2. In humans, sperms are produced in
   (A) epididymis (B) rete testis (C) seminiferous tubules (D) vas deferens
3. Sertoli cells which line the seminiferous tubules from inside
   (A) undergo meiotic division to produce sperms (B) provide nutrition to the germ cells
   (C) synthesise and secrete testicular hormones (D) All of these
4. Refer to the given figure showing sectional view of seminiferous tubule. In the figure, some parts are labelled as A, B, C and D. Identify the part which provides nutrition to the developing sperms.

(A) A (B) C (C)D (D) B

5. The regions outside the seminiferous tubules that contain Leydig cells are called
(A) interstitial spaces (B) antrum (C) scrotum (D) none of these
6. Testicular hormones called androgens are secreted by
(A) interstitial cells (B) Leydig cells (C) Sertoli cells (D) both (a) and (b)
7. Which one is odd from the following structures with reference to the male reproductive system. [NCERT Exemplar]
(A) Rete testis (B) Epididymis (C) Vasa efferentia (D) Isthmus
8. The vas deferens opens into urethra as [NCERT Exemplar]
(A) epididymis (B) ejaculatory duct (C) efferent ductile (D) ureter
9. Which of the following depicts the correct pathway of transport of sperms?

(A) Rete testis → Efferent ductules →Epididymis → Vas deference
(B) Rete testis → Epididymis → Efferent ductules → Vas deference
(C) Rete testis → Vas deference →Efferent ductules → Epididymis
(D) Efferent ductules → Rete testis → Vas deference → Epididymis
10. Among the following which one is not an accessory duct of male reproductive system?
(A) Rete testis (B)Vasa efferentia (C) Vas deferens (D)Urethra
11. The ejaculatory duct transports the sperms to the outside through
(A) urethra (B) rete testis (C) vasa efferentia (D) none of these
12. Refer to the given figure and choose the correct option for the parts labelled as A, B, C and D.

| | a | b | c | d |
|---|---|---|---|---|
| A | Vas deferens | Seminal vesicle | Prostate gland | Bulbourethral gland |
| B | Vasa efferentia | Prostate gland | Seminal vesicle | Bulbourethral gland |
| C | Prostate gland | Seminal vesicle | Bulbourethral gland | Vas deferens |
| D | Bulbourethral gland | Vas deferens | Prostate gland | Vasa efferentia |

13. Match the parts given in Column-I to their characteristic features in Column-II and choose the correct option from the codes given below

| Column I | Column II |
|---|---|
| (a) Penis | (1) Loose fold of skin |
| (b) Glans penis | (2) Male external genitalia |
| (c) Foreskin | (3) External opening urethra |
| (d) Urethral meatus | (4) Enlarged end of penis |

| | a | b | c | d |
|---|---|---|---|---|
| (A) | 2 | 4 | 1 | 3 |
| (B) | 3 | 4 | 1 | 2 |
| (C) | 2 | 4 | 3 | 1 |
| (D) | 4 | 3 | 2 | 1 |

14. Urethral meatus is/are [NCERT Exemplar]
(A) the urinogenital duct (B) opening of vas deferens into urethra
(C) external opening of the urinogenital duct (D) muscles surrounding the urinogenital duct

15. Among the following which one is not a male accessory gland? [NCERT Exemplar]
(A) Seminal vesicle (B) Ampulla (C) Prostate (D) Bulbourethral gland

16. Match the Column-I (parts) to Column-II (feature) and choose the correct option from the codes given below.

| **Column I** | **Column II** |
|---|---|
| (a) Sertoli cells | (1) Testicular hormones |
| (b) Leydig cells | (2) External opening of urethra |
| (c) Epididymis | (3) Nutrition to the germ cells |
| (d) Urethral meatus | (4) Male sex accessory duct |

| | a | b | c | d |
|---|---|---|---|---|
| (A) | 4 | 3 | 2 | 1 |
| (B) | 3 | 1 | 4 | 2 |
| (C) | 1 | 2 | 3 | 4 |
| (D) | 2 | 4 | 1 | 3 |

17. 17. Seminal plasma is contributed by: [NCERT Exemplar]
(I) Seminal vesicle (II) Prostate (III) Urethra (IV) Bulbourethral gland
(A) I and II (B) I, II and IV (C) II, III and IV (D) I and IV

18. Read the following statements about seminal plasma and choose the correct statement(s) from the given options.
(I) Seminal plasma is secreted by seminal vesicles, prostate and bulbourethral glands.
(II) It is rich in sucrose and calcium.
(III) It contains certain enzymes also.
(A) I and II (B) II and III (C) I and III (D) All of these

19. Read the following statements about male reproductive system and choose the incorrect statements from the given options.
(I) It is located in the pelvis region.

(II) The testes are situated outside the abdominal cavity within a pouch called scrotum.
(III) Each testis has about 350 testicular tubules.
(IV) Penis, the male external genitalia is made up of special tissues to facilitate insemination.
(A) I and III (B) III and IV (C) I and IV (D) Only III

20. Assertion: The scrotum helps in maintaining the low temperature of the testes.
Reason: The low temperature of the testes is necessary for spermatogenesis.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true, but reason is not the correct explanation of assertion.
(C) Assertion is true, but reason is false.
(D) Both assertion and reason are false.

21. Assertion: The enlarged part of penis is called glans penis.
Reason: The glans penis is covered by a loose fold of skin called foreskin. [Pg-44,H]
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true, but reason is not the correct explanation of assertion.
(C) Assertion is true, but reason is false.
(D) Both assertion and reason are false.

The Female Reproductive System

22. The primary female sex organ is/are
(A) vagina (B) uterus (C) ovaries (D) external genitalia

23. Among the following which one is not the part of female reproductive system?
(A) Cervix (B) Sertoli cells (C)Mammary glands (D) Oviducts

24. The parts that constitute the female accessory ducts include
(A) Fallopian ducts (B) vagina (C)ovaries (D)both (a) and (b)

25. The funnel-shaped part of Fallopian tube that remains closer to the ovary is
(A) infundibulum (B) fimbriae (C) ampulla (D) isthmus

26. The part of the oviduct that joins the uterus is
(A) ampulla (B) isthmus (C) fimbriae (D) infundibulum

27. The uterus is also called [Pg-46,E]
(A) womb (B) cervix (C) cervical canal (D) none of these

28. The inner glandular layer that lines the uterine cavity is
(A) perimetrium (B) myometrium (C) endometrium (D) ectometrium

29. The uterine layer that undergoes cyclical changes during menstrual cycle is [Pg-46,E]
(A) myometrium (B) endometrium (C) perimetrium (D) both (a) and (b)

30. Which uterine layer exhibits strong contractions during the delivery of the baby?
(A) Endometrium (B) Perimetrium (C) Myometrium (D) Both (a) and (c)

31. The female external genitalia include
(A) mons pubis (B) labia majora (C) clitoris (D) all of these

32. The opening of the vagina is often covered partially by a membrane called
(A) hymen (B) clitoris (C) labia minora (D) none of these

33. A tiny finger-like structure which lies at the upper junction of the two labia minora is
(A) hymen (B) mons pubis (C) clitoris (D) none of these

34. How many mammary lobes are found in each breast?
(A) 20–25 (B) 15–20 (C) 10–15 (D) 25–30

35. The alveoli of mammary glands open into
(A) mammary tubules (B) mammary duct
(C) lactiferous duct (D) mammary lobes

36. The milk is sucked out through

(A) mammary duct (B) lactiferous duct (C) alveoli (D) none of these

37. Match the parts of female reproductive system given in Column-I with their functions in Column-II and choose the correct option from the codes given below.

| **Column I** | **Column II** |
|---|---|
| (a) Ovary | (1) Delivery of baby |
| (b) Fimbriae | (2) Steroid hormone |
| (c) Myometrium | (3) Secretion of milk |
| (d) Cells of alveoli | (4) Collection of ovum |

| | a | b | c | d |
|---|---|---|---|---|
| (A) | 2 | 4 | 1 | 3 |
| (B) | 4 | 3 | 2 | 1 |
| (C) | 3 | 4 | 1 | 2 |
| (D) | 1 | 4 | 3 | 2 |

38. Match the layers of uterus given in Column-I with their characteristic features given in Column-II and choose the correct option from the codes given below.

| Column I | Column II |
|---|---|
| (A) Perimetrium | (1) Thick layer of smooth muscles |
| (B) Myometrium | (2) Thick membranous layer |
| (C) Endometrium | (3) Glandular layer |
| | (4) Thin membranous layer |

| | a | b | c |
|---|---|---|---|
| (A) | 2 | 4 | 3 |
| (B) | 4 | 1 | 3 |
| (C) | 1 | 2 | 3 |
| (D) | 3 | 1 | 2 |

39. Match the parts of female external genitalia in Column-I with their characteristic features in Column-II. Choose the correct option from the codes given below.

| Column I | Column II |
|---|---|
| (a) Mons pubis | (1) Fleshy folds of tissue |
| (b) Labia majora | (2) Cushion of fatty tissue |
| (c) Hymen | (3) Tiny finger-like structure |
| (d) Clitoris | (4) Covers opening of vagina |

| | a | b | c | d |
|---|---|---|---|---|
| (A) | 2 | 1 | 4 | 3 |
| (B) | 4 | 3 | 2 | 1 |
| (C) | 1 | 4 | 3 | 2 |
| (D) | 2 | 1 | 3 | 4 |

40. The edges of the infundibulum possess finger like projections that -

(A) are the sight of fertilisation.

(B) help in the collection of ovum after fertilisation.

(C) are responsible for the release of egg.

(D) none of these

41. Read the following statements about uterus and choose the correct option from the codes given below.

(I) The shape of the uterus is like inverted pear.

(II) The uterus opens into vagina through a narrow cervix.

(III) The uterus along with cervix forms the birth canal.
(A) I and III (B) II and III (C) I and II (D) All of these

42. Read the following statements about mammary glands and choose the incorrect statement.
(I) The mammary glands contain glandular tissue and fat.
(II) The mammary lobes of breasts contain alveoli which secrete milk.
(III) The milk secreted by alveoli is stored in lactiferous duct.
(A) Only II (B) Only III (C) Only I (D)I and III

43. Assertion: Ovaries are the primary sex organs.
Reason: Ovaries produce the female gamete.
(A) Both assertion and reason are correct and reason is the correct explanation of assertion.
(B) Both assertion and reason are correct but reason is not the correct explanation of assertion.
(C) Assertion is correct, but reason is incorrect.
(D) Both assertion and reason are incorrect.

44. Assertion: Ovaries produce gamete as well as steroid hormones.
Reason: The oviducts, ovaries and cervix constitute the female accessory ducts.
(A) Both assertion and reason are correct and reason is the correct explanation of assertion.
(B) Both assertion and reason are correct but reason is not the correct explanation of assertion.
(C) Assertion is correct, but reason is incorrect.
(D) Both assertion and reason are incorrect.

45. Assertion: The uterus opens into vagina through a narrow cervix.
Reason: The cavity of cervix is called cervical canal.
(A) Both assertion and reason are correct and reason is the correct explanation of assertion.
(B) Both assertion and reason are correct but reason is not the correct explanation of assertion.
(C) Assertion is correct, but reason is incorrect.
(D) Both assertion and reason are incorrect.

46. Assertion: Mons pubis is a cushion of fatty tissue covered by skin and pubic hair.
Reason: The labia majora are paired folds of tissue under the labia minora.
(A) Both assertion and reason are correct and reason is the correct explanation of assertion.
(B) Both assertion and reason are correct but reason is not the correct explanation of assertion.
(C) Assertion is correct, but reason is incorrect.
(D) Both assertion and reason are incorrect.

47. Assertion: The alveoli of mammary lobes open into their lumen.
Reason: Several lactiferous ducts join to form a mammary duct through which milk is sucked out.

(A) Both assertion and reason are correct and reason is the correct explanation of assertion.
(B) Both assertion and reason are correct but reason is not the correct explanation of assertion.
(C) Assertion is correct, but reason is incorrect.
(D) Both assertion and reason are incorrect.

Para-3.3

Gametogenesis

48. The process of producing gametes by primary sex organs is known as-
(A) gametogenesis (B) spermatogenesis (C) oogenesis (D) none of these

49. The immature, diploid male germ cells that produce sperms are
(A) spermatogonia (B) secondary spermatocytes
(C) spermatids (D) spermatozoa

50. Which of the following cells during gametogenesis is normally diploid? [AIPMT-2015]

(A) Spermatid (B) Spermatogonia (C) Secondary polar body (D) Primary polar body

51. Among the following, identify the cell(s) which undergo mitotic division during spermatogenesis?

(A) Primary spermatocytes (B) Secondary spermatocytes
(C) Spermatids (D) Spermatogonia

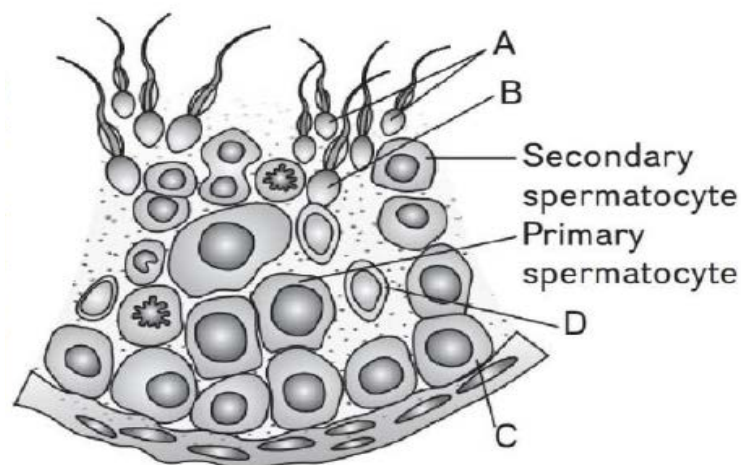
52. Spermatogenesis is the process in which immature male germ cells undergo division to produce sperms. Choose the correct one with reference to above. [NCERT Exemplar]
(A) Spermatogonia have 46 chromosomes and always undergo meiotic cell division.
(B) Primary spermatocytes divide by mitotic cell division.
(C) Secondary spermatocytes have 23 chromosomes and undergo second meiotic division.
(D) Spermatozoa are transformed into spermatids.

53. After spermiogenesis, sperm heads become embedded in
(A) Leydig cells (B) antrum (C) Sertoli cells (D) interstitial cells

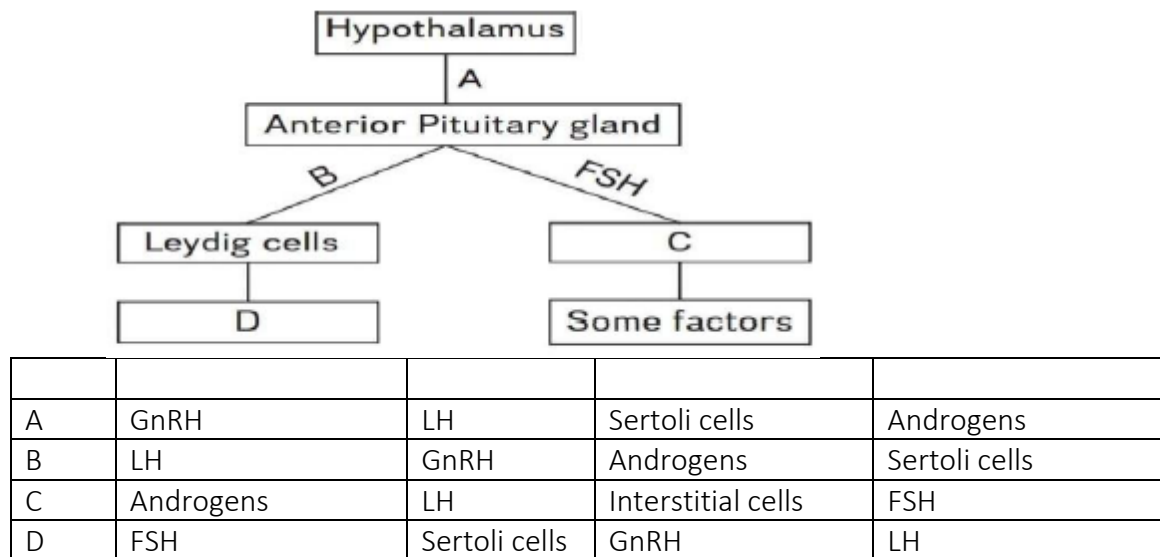
54. During spermiation the sperms are released from [NEET Exemplar]
(A) seminiferous tubules (B) vas deferens
(C) epididymis (D) prostate gland

55. The difference between spermiogenesis and spermiation is [NEET-2018]
(A) in spermiogenesis spermatids are formed, while in spermiation spermatozoa are formed.
(B) in spermiogenesis spermatozoa are formed, while in spermiation spermatids are formed.
(C) in spermiogenesis spermatozoa from Sertoli cells are released into the cavity of seminiferous tubules, while in spermiation spermatozoa are formed.
(D) in spermiogenesis spermatozoa are formed, while in spermiation spermatozoa are released from Sertoli cells into the cavity of seminiferous tubules.

56. Spermatogenesis starts due to significant increase in the secretion of
(A) FSH (B) GnRH (C) LH (D) oxytocin

57. Refer to the given figure showing diagrammatic sectional view of a seminiferous tubule. In the figure, some parts are labeled as A, B, C and D. Identify the part which gets activated by FSH.

(A) A (B) B (C) D (D) C

58. Refer to the given flowchart. In it, some spaces are mentioned as A, B, C and D. Identify the correct option for them from the codes given below.

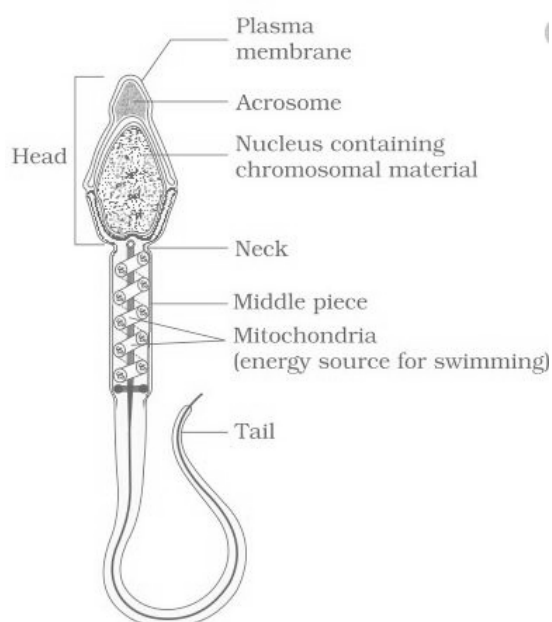
| | | | | |
|---|---|---|---|---|
| A | GnRH | LH | Sertoli cells | Androgens |
| B | LH | GnRH | Androgens | Sertoli cells |
| C | Androgens | LH | Interstitial cells | FSH |
| D | FSH | Sertoli cells | GnRH | LH |

59. The anterior portion of the sperm head is covered by a cap-like structure called
(A) middle piece (B) antrum (C) acrosome (D) none of these

60. Match the Column-I representing parts of the sperm to Column-II showing their functions and choose the correct option. [NCERT Exemplar]

| **Column I** | **Column II** |
|---|---|
| (a) Head | (1) Enzymes |
| (b) Middle piece | (2) Sperm motility |
| (c) Acrosome | (3) Energy |
| (d) Tail | (4) Genetic material |

| | A | B | C | D |
|---|---|---|---|---|
| (A) | 2 | 4 | 1 | 3 |
| (B) | 4 | 3 | 1 | 2 |
| (C) | 4 | 1 | 2 | 3 |
| (D) | 2 | 1 | 3 | 4 |

61. The semen of human male contains
(A) seminal plasma (B) sperms (C) enzymes (D) both (a) and (b)

62. Refer to the given figure showing structure of a sperm. The figure is followed by four (I–IV) statements.

Choose the incorrect statement(s) about it.

(I) The acrosome is filled with enzymes that help in fertilizing the ovum.
(II) The neck possesses numerous mitochondria.
(III) Tail is responsible for sperm motility.
(IV) The human male ejaculates 50–100 million sperms during a coitus.
(A) II and IV (B) I and III (C) I and II (D) III and IV

63. Which among the following has 23 chromosomes?
(A) Spermatogonia (B) Zygote (C) Secondary oocyte (D) Oogonia

64. The oogenesis is markedly different from spermatogenesis because
(A) it is initiated during embryonic development stage.
(B) it produces diploid gametes.
(C) it produces sperms also in special conditions.
(D) none of these

65. The tertiary follicle is characterized by a fluid filled cavity called
(A) antrum (B) corpus luteum (C) matrix (D) none of these

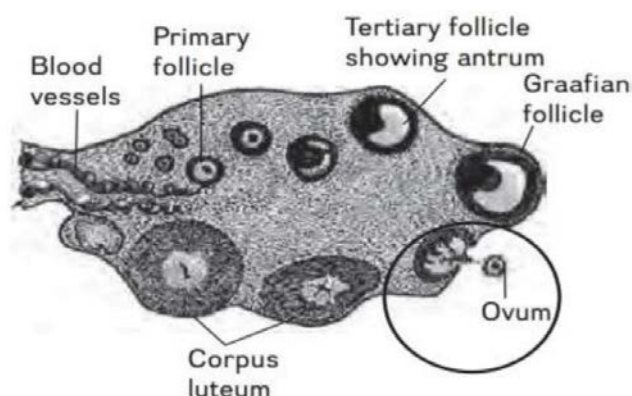
66. In which stage primary oocyte completes its first meiotic division?
(A) Primary follicle (B) Secondary follicle (C) Tertiary follicle

67. Match Column-I with Column-II and choose the correct option from the codes given below.

| **Column I** | **Column II** |
|---|---|
| (a) Oogonia | (1) Antrum |
| (b) Tertiary follicle | (2) Gamete mother cells |
| (c) Secondary follicle | (3) Haploid |
| (d) Secondary oocyte | (4) More layers of granulosa |

| | **a** | **b** | **c** | **d** |
|---|---|---|---|---|
| (A) | 4 | 3 | 2 | 1 |
| (B) | 1 | 2 | 3 | 4 |
| (C) | 2 | 1 | 4 | 3 |
| (D) | 3 | 4 | 2 | 1 |

68. Extrusion of second polar body from egg nucleus occurs [NEET 2019]
(A) after entry of sperm, but before fertilisation (B) after fertilisation
(C) before entry of sperm into ovum (D) simultaneously with first cleavage

69. Refer to the given figure showing diagrammatic section view of ovary. The encircled part of figure is showing a process of oogenesis. Identify it as well as the follicle which is involved in this process.

(A) Spermiation, Secondary follicle (B) Menstruation, Primary follicle
(C) Ovulation, Graafian follicle (D) Ovulation, Tertiary follicle

70. **Assertion:** Spermatogenesis starts at the age of puberty.
**Reason:** There is a significant increase in the secretion of gonadotropin releasing hormone at puberty.

(A) Both assertion and reason are true and reason is the correct explanation
(B) Both assertion and reason are true but reason is not the correct explanation of assertion.
(C) Assertion is true, but reason is false.
(D) Both assertion and reason are false.

71. **Assertion**: Oogenesis is initiated at puberty.
**Reason:** Millions of oogonia are formed within each ovary every month.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason true but reason is not the correct explanation of assertion.
(C) Assertion is true but reason is false.
(D) Both assertion and reason are false.

72. **Assertion:** A large haploid secondary oocyte is formed due to unequal division.
**Reason:** A tiny second polar body is formed during this division.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason true but reason is not the correct explanation of assertion.
(C) Assertion is true but reason is false.
(D) Both assertion and reason are false.

**Para-3.4**
**Menstrual Cycle**

73. The reproductive cycle in the female primates is called
(A) menstrual cycle (B) oestrous cycle (C) reproduction cycle (D) none of these

74 . Menarche that begins at puberty is
(A) cessation of menstrual cycle (B) first menstruation
(C) period of pregnancy in which menstruation ceases (D) none of these

75. The cycle of events starting from one menstruation till the next one is called
(A) menopause (B) menarche (C) menstrual cycle (D) oestrous cycle

76. The menstrual phase of menstrual cycle lasts for:
(A) 8–15 days (B) 1–2 days (C) 1 day (D) 3–5 days

77. Menstrual flow results due to breakdown of
(A) endometrial lining (B) blood vessels (C) myometrial lining (D) both (a) and (b)

78. Menstruation only occurs if
(A) implantation has occurred (B) the released ovum is fertilized
(C) the released ovum is not fertilized(D) both (A) and (D)

79. The lack of menstruation may be due to
(A) pregnancy (B) stress (C) poor health (D) all of these

80. The menstrual phase is followed by
(A) follicular phase (B) luteal phase (C) secretory phase (D) both (b) and (c)

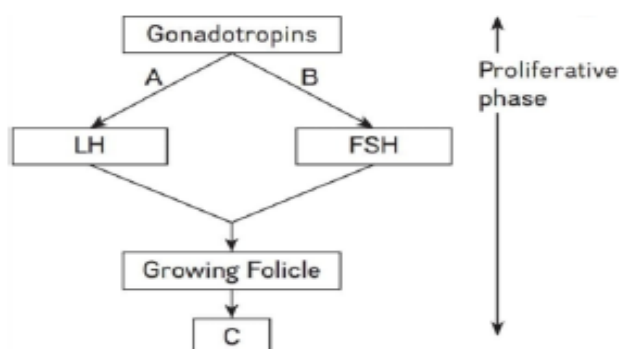
81. What change(s) occur in ovary and/or uterus during follicular phase of menstrual cycle?
(A) Formation of Graafian follicle (B) Formation of corpus luteum
(C) Regeneration of endometrium (D) Both (A) and (C)

82. The changes in the ovary and uterus during proliferative phase are induced by changes in the levels of

(A) pituitary hormone (B) ovarian hormone (C) pineal hormone (D) both (a) and (b)

83. In the ovary of a healthy human female mature Graafian follicle is generally present around [NCERT Exemplar]
(A) 5–8 day of menstrual cycle (B) 11–17 day of menstrual cycle
(C) 18–23 day of menstrual cycle (D) 24–28 day of menstrual cycle

84. During proliferative phase, the growing follicles secrete
(A) LH (B) FSH (C) gonadotropins (D) estrogens

85. Refer to the given flowchart, in which three parts are labeled as A, B and C.
Identify them and choose the correct option from the codes given below.

**Codes-**

| | A | B | C |
|---|---|---|---|
| (A) | Increase | Increase | Estrogens |
| (B) | Decrease | Increase | Estrogens |
| (C) | Decrease | Decrease | Testosterone |
| (D) | Increase | Decrease | TSH |

86. Match the items given in Column-I with those in Column-II and select correct option from the codes given below. [NEET–2018]

| **Column I** | **Column II** |
|---|---|
| (a) Proliferative phase | (1) Breakdown of endometrial lining |
| (b) Secretary phase | (2) Follicular phase |
| (c) Menstruation | (3) Luteal phase |

| | A | b | c |
|---|---|---|---|
| (A) | 3 | 2 | 1 |
| (B) | 1 | 3 | 2 |
| (C) | 2 | 3 | 1 |
| (D) | 3 | 1 | 2 |

87. Both LH and FSH attain a peak level on about ‘A’ day of cycle. Choose the correct option for ‘A’.

(A) 10th day (B) 14th day (C) 19th day (D) 5th day

88. Read the following statements about LH surge and choose the incorrect one.
(A) LH surge is rapid secretion of luteal hormone.
(B) It occurs in the mid of the cycle.
(C) LH surge induces degeneration of corpus luteum.
(D) It causes ovulation.

89. The release of ovum occurs during which phase of menstrual cycle?
(A) Follicular phase (B) Proliferative phase (C) Ovulatory phase (D) Secretory phase

90. The ovulatory phase of menstrual cycle is followed by
(A) luteal phase (B) follicular phase (C) proliferative phase (D) menstrual phase

91. No new follicles develop in the luteal phase of the menstrual cycle because [NEET Odisha-2019]

(A) Both FSH and LH levels are low in the luteal phase
(B) follicles do not remain in the ovary after ovulation
(C) FSH levels are high in the luteal phase.
(D) LH levels are high in the luteal phase.

92. Match the phases of menstrual cycle given in Column-I with the hormones secreted during that phase in Column-II. Choose the correct option from the codes given below.

| **Column I** | **Column II** |
|---|---|
| (a) Follicular phase | (1) Progesterone |

(b) Ovulatory phase (2) Gonadotropins
(c) Luteal Phase (3) LH surge
(4) Estrogens

**Codes**

| | a | b | c |
|---|---|---|---|
| (A) | 4 | 3,1 | 2 |
| (B) | 2,4 | 3 | 1 |
| (C) | 2 | 4,1 | 3 |
| (D) | 2 | 1 | 4,3 |

93. Among the following which change occurs during luteal phase?
(A) Corpus luteum → Graafian follicle (B) Graafian follicle → Corpus luteum
(C) Primary follicle → Secondary follicle (D) Secondary follicle → Graafian follicle

94. Read the following statements about corpus luteum and choose the correct ones from the following options.
(I) It is formed during ovulatory phase of menstrual cycle.
(II) It secretes large amounts of progesterone.
(III) In the absence of ovulation, the corpus luteum degenerates.
(IV) The degeneration of corpus luteum causes disintegration of endometrium.
(A) I and III (B) II and III (C) II and IV (D) I and IV

95. In human beings, permanent cessation of menstrual cycle is called:
(A) Menopause (B) Menarche (C) Ovulation (D) None of these

96-97. Refer to the given figure to answer the question no 96–97. The figure is showing diagrammatic presentation of various events during a menstrual cycle. In the figure, A, B and C, D show the levels of pituitary and ovarian hormones respectively.

96. The gradual increase of which hormone stimulates the secretion of hormone C
(A) A (B) B (C) D (D) Both (a) and (b)

97. The rapid increase of which hormone will induce rupture of Graafian follicle and thereby the release of ovum?
(A) A (B) C (C) B (D) D

98. Choose the incorrect statement from the following. [NCERT Exemplar]
(I) High levels of estrogen triggers the ovulatory surge.

(II) Oogonial cells start to proliferate and give rise to functional ova in regular cycles from puberty onwards.
(III) Sperms released from seminiferous tubules are poorly motile/non-motile.
(IV) Progesterone level is high during the post ovulatory phase of menstrual cycle.
(A) I and III (B) II and IV (C) I and IV (D) I and II

99. Consider the following features.
(i) Transformation of Graafian follicle into corpus luteum.
(ii) Secretion of large amount of progesterone from corpus luteum.
(iii) Maintenance of endometrial lining of the uterus.
Select the correct phase of menstrual cycle that possesses all the above characteristics.
(A) Follicular phase (B) Secretory phase (C) Proliferative phase (D) Ovulatory phase

100. **Assertion:** The lack of mensuration may be indicative of pregnancy.
**Reason:** Mensuration only occurs if the released ovum is not fertilised.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true but reason is not the correct explanation of assertion.
(C) Assertion is true but reason is false.
(D) Both assertion and reason are false.

101. **Assertion:** During secretory phase the levels of LH and FSH gradually increase.
**Reason:** The increased levels of FSH and LH induce Graafian follicles to secrete progesterone.

(A) Both assertion and reason are true and reason is the correct explanation of assertion.
( B) Both assertion and reason are true but reason is not the correct explanation of assertion.
(C) Assertion is true but reason is false.
(D) Both assertion and reason are false.

102. **Assertion:** During pregnancy, all events of the menstrual cycle stop.
**Reason:** In the absence of fertilisation, the corpus luteum degenerates.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true but reason is not the correct explanation of assertion.
(C) Assertion is true but reason is false.
(D) Both assertion and reason are false.

Para-3.5

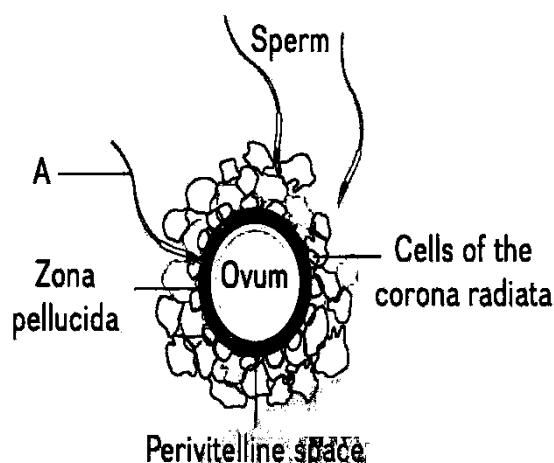
Fertilization and Implantation

103. The sperms released during copulation, finally reach to which part of the Fallopian tube?
(A) Infundibulum (B) Isthmus (C) Ampulla (D) Ampullary-isthmic

104. All copulations not lead to the fertilisation and pregnancy. Choose the correct reason for the same from the following options.
(A) Fertilisation can only occur if sperms are transported to the ampullaryisthmic junction before the ovum.
(B) Fertilisation can only occur if the ovum and sperms are transported simultaneously to the ampullaryisthmic junction.
(C) Fertilisation can only occur if ovum is transported to the ampullary–isthmic junction before the sperms.
(D) None of these

105. Capacitation occurs in [NEET–2017]
(A) epididymis (B) vas deferens (C) female reproductive tract (D) rete testis

106. Capacitation refers to changes in the [AIPMT-2015]
(A) ovum before fertilisation (B) ovum after fertilisation
(C) sperm after fertilisation (D) sperm before fertilisation

107. Refer to the given figure showing an ovum surrounded by few sperms. Sperm 'A' in the figure is trying to fertilise the ovum. How will this sperm 'A' ensure that no other sperm can fertilise the ovum?

(A) By inducing changes in the cells of corona radiata.
(B) By inducing changes in the zona pellucida layer of the ovum.
(C) By inducing changes in the perivitelline space of the ovum.
(D) By releasing some chemicals to kill other sperms.

108. The membranous cover of the ovum that is found at the time of ovulation is [NCERT Exemplar]

(A) corona radiate (B) zona radiate (C) zona pellucida (D) chorion

109. During acrosomal reaction the sperm [NCERT Exemplar]
(A) comes in contact with zona pellucida of the ova.
(B) undergoes reactions within the uterine environment of female.
(C) undergoes reactions within the epididymal environment of the male.
(D) produces androgens in the uterus.

110. The secretions of the acrosome help the sperm to enter into the cytoplasm of ovum through
(A) corona radiata (B) zona pellucida (C) chorion (D) amnion

111. Match the events given in Column-I with their characteristic features in Column-II and choose the correct option from the codes given below.

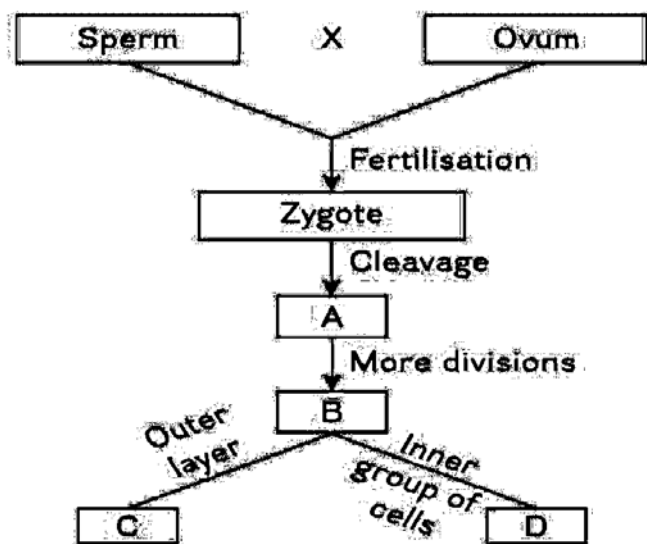
| Column I | Column II |
|---|---|
| (a) Fertilisation | (1) Female reproductive tract |
| (b) Capacitation | (2) Contact of sperm with zona pellucida |
| (c) Acrosomal reaction | (3) Before fertilisation and after ovulation |
| (d) Second polar body | (4) Ampullary – isthmic junction |

Codes

| | a | b | c | d |
|---|---|---|---|---|
| (A) | 1 | 4 | 2 | 3 |
| (B) | 4 | 1 | 2 | 3 |
| (C) | 3 | 2 | 4 | 1 |
| (D) | 4 | 1 | 3 | 2 |

112. The embryo having 8–16 blastomeres is called
(A) blastula (B) gastrula (C) morula (D) trophoblast

113. Morula is known as a developmental stage [NCERT Exemplar]
(A) between the zygote and blastocyst (B) between the blastocyst and gastrula
(C) after the implantation (D) between implantation and parturition

114. Refer to the given flowchart. It has some blank spaces mentioned as A, B, C and D. Choose the correct option for these A, B, C and D.

(A) Morula Blastocyst Trophoblast Inner cell mass (B) Blastocyst Morula Trophoblast Inner cell mass
(C) Morula Blastocyst Inner cell mass Trophoblast (D) Blastocyst Morula Inner cell mass Trophoblast

115. The blastomeres in the blastocyst are arranged into
(A) an outer trophoblast and inner cell mass (B) an outer cell mass and inner trophoblast
(C) an outer cell mass and inner cell mass (D) none of these

116. During embryogenesis which part of blastocyst gets differentiated into embryo?
(A) Trophoblast (B) Inner cell mass (C) Morula (D) Both (a) and (b)

117. The embedding of blastocyst in the endometrium of uterus is called
(A) pregnancy (B) lactation (C) embryogenesis (D) implantation

118. Extrusion of second polar body from egg nucleus occurs [NEET–2015]
(A) after entry of sperm but before fertilisation (B) after fertilisation
(C) before entry of sperm into ovum (D) simultaneously with first cleavage

119. All the haploid gametes produced by the female have
(A) X-chromosomes
(B) Y-chromosomes
(C) 50% gametes have X and 50% have Ychromosomes
(D) 25% gametes have X and 75% have Ychromosomes

120. Cleavage that occurs in the zygote as it moves through the isthmus of oviduct towards the uterus is

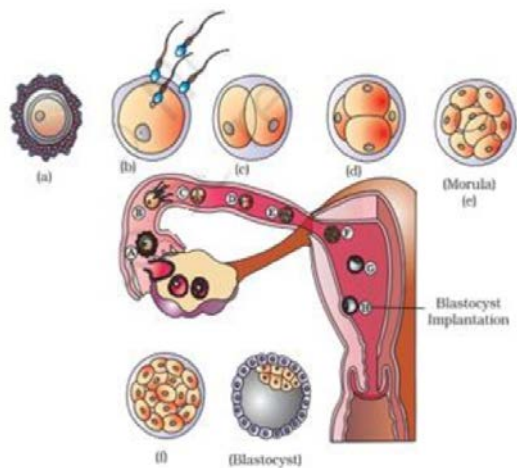
(A) meiotic division v (B) mitotic division (C) reductional division (D) none of these

121. Match the following and choose the correct option from the codes given below.

| **Column I** | **Column II** |
|---|---|
| (a) Trophoblast | (1) Embedding of Blastocyst in the endometrium |
| (b) Cleavage | (2) Group of cells hat would differentiate as embryo |
| (c) Inner cell mass | (3) Outer layer of blastocyst attached to the endometrium |
| (d) Implantation | (4) Mitotic division of zygote |

**Codes**

| | a | b | c | d |
|---|---|---|---|---|
| (A) | 2 | 1 | 3 | 4 |
| (B) | 3 | 4 | 2 | 1 |
| (C) | 3 | 1 | 2 | 4 |
| (D) | 2 | 4 | 3 | 1 |

122. Refer to the given figure showing transport of ovum, fertilisation and passage of growing embryo through Fallopian tube. The figure is followed by four statements. Choose the incorrect statement about it.

(A) The second meiotic division of secondary oocyte occurs after fertilisation.
(B) The embryo with 8–16 blastomeres is called morula.
(C) The trophoblast layer of blastocyst gets embedded in the endometrium.
(D) The cells of inner cell mass differentiate to form embryo.

123. **Assertion:** All copulations do not lead to fertilisation and pregnancy.
**Reason:** Fertilisation can only occur if the ovum and sperms are transported simultaneously to the ampullary– isthmic junction.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true but reason is not the correct explanation of assertion.
(C) Assertion is true but reason is false.
(D) Both assertion and reason are false.

124. **Assertion:** The secretions of the acrosome help the sperm enter into the cytoplasm of the ovum.
**Reason:** The entry of sperm into the cytoplasm of the ovum is responsible for the capacitation of sperms.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true but reason is not the correct explanation of assertion.
(C) Assertion is true but reason is false.
(D) Both assertion and reason are false.

125. **Assertion:** The blastomeres in the blastocyst are arranged into trophoblast and inner cell mass.
**Reason:** The trophoblast layer gets attached to the endometrium.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true but reason is not the correct explanation of assertion.
(C) Assertion is true but reason is false.
(D) Both assertion and reason are false.

Para-3.6
Pregnancy and Embryonic Development

126. The finger-like projections that appear on called
(A) trophoectoderm (B) chorionic villi (C) placenta (D) none of these

127. The structural and functional unit formed between the developing embryo (foetus) and maternal body is called
(A) placenta (B) trophoblast (C) chorionic villi (D) trophoectoderm

128. The embryo remains connected to the placenta through
(A) chorionic villi (B) trophoblast (C) umbilical cord (D) none of these

129. Choose the incorrect statement about placenta.
(A) The placenta facilitates the supply of oxygen and nutrients to the embryo.
(B) It helps in the removal of CO2 and excretory/ waste materials produced by the embryo.
(C) The placenta is connected to the embryo through umbilical cord.
(D) Placenta acts like an endocrine tissue and produces several enzymes also.

130. Which of the following hormones is not secreted by human placenta? [NCERT Exemplar]
(A) hCG (B) Estrogen (C) Progesterone (D) LH

131. Several hormones like hCG, hPL, estrogen, progesterone are produced by [NEET–2016]
(A) Fallopian tube (B) pituitary (C) ovary (D) placenta

132. A hormone that is secreted by ovary in the later phase of pregnancy is
(A) estrogen (B) FSH (C) relaxin (D) hCG

133. The hormone(s) that is/are produced during pregnancy only
(A) hCG (B) hPL (C) relaxin (D) all of these

134. The levels of estrogens, progestogens, cortisol, prolactin, etc., increase many fold in blood during pregnancy. It is necessary for
(A) supporting the fetal growth (B) metabolic changes in the mother
(C) the maintenance of pregnancy (D) all of these

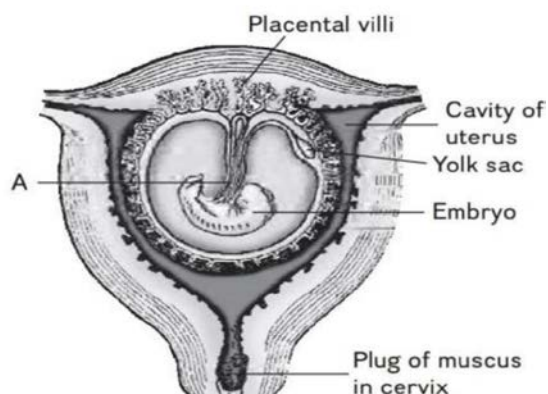
135. Match Column-I with Column-II and choose the correct option from the codes given below.

| **Column I** | **Column II** |
|---|---|
| (a) Chorionic villi | (1) Secretes relaxin hormone |
| (b) Placenta | (2) Finger-like projections on the trophoblast |
| (c) Umbilical cord | (3) Structural and functional unit between foetus and mother |
| (d) Ovary | (4) Connects embryo to placenta |

**Codes**

| | a | b | c | d |
|---|---|---|---|---|
| (A) | 2 | 3 | 4 | 1 |
| (B) | 3 | 2 | 4 | 1 |
| (C) | 2 | 3 | 1 | 4 |
| (D) | 4 | 1 | 3 | 2 |

136. Immediately after implantation, which part of blastocyst differentiates into ectoderm and endoderm?
(A) Trophoblast (B) Chorionic villi (C) Inner cell mass (D) None of these

137. Refer to the given figure showing human foetus within the uterus. How will the removal of 'A' in the figure affect the growth of foetus?

(A) Secretion of hCG hormone will stop
(B) Secretion of relaxin hormone will stop
(C) Transportation of substances to and from the embryo will stop
(D) All of these

138. The inner cell mass contains certain cells called stem cells which have the potency to give rise to

(A) specific tissues and organs (B) all tissues and organs
(C) only cardiac cells and heart (D) none of these

139. Match Column-I with Column-II and select the correct option using the codes given below. [NEET–2016]

**Column I** **Column II**

(a) Mons pubis (1) Embryo formation
(b) Antrum (2) Sperm
(c) Trophectoderm (3) Female external genitalia
(d) Nebenkern (4) Graafian Follicle

Codes

| | a | b | c | d |
|---|---|---|---|---|
| (A) | 3 | 1 | 4 | 2 |
| (B) | 1 | 4 | 3 | 2 |
| (C) | 3 | 4 | 2 | 1 |
| (D) | 3 | 4 | 1 | 2 |

140. The foetus develops limbs and digits by the end of
(A) 1st month of pregnancy (B) 2nd month of pregnancy
(C) 3rd month of pregnancy (D) 5th month of pregnancy

141. Match Column-I with Column-II and choose the correct option from the codes given below.

| **Column I** **(Organ)** | **Column II** **(Month of development during pregnancy)** |
|---|---|
| (a) Heart | (1) Second month |
| (b) Limbs and digits | (2) First month |
| (c) External genitalia | (3) Fifth month |
| (d) Appearance of hair on head | (4) Third month |

**Codes**

| | a | b | c | d |
|---|---|---|---|---|
| (A) | 1 | 2 | 4 | 3 |
| (B) | 2 | 1 | 3 | 4 |
| (C) | 2 | 1 | 4 | 3 |
| (D) | 3 | 2 | 4 | 1 |

142. Read the following statements about major features of embryonic development at various months of pregnancy. Choose the incorrect statement(s) about it.
(I) The embryo's heart is the first formed organ.
(II) Most of the major organ systems are formed by the end of 2nd month of pregnancy.
(III) The first movement of foetus is observed during 7th month of pregnancy.
(IV) The eyelashes are formed by the end of second trimester.
(A) II and III (B) I and II (C) III and IV (D) Only IV

143. Select the correct sequences of events. [Odisha, NEET-2019]
(A) Gametogenesis → Gamete transfer → Syngamy → Zygote cell differentiation → cell division (cleavage) → Organogenesis
(B) Gametogenesis → Gamete transfer → Syngamy → Zygote cell division (cleavage) → cell differentiation →organogenesis
(C) Gametogenesis → Gamete transfer → Syngamy → Zygote cell division (cleavage) → organogenesis → cell differentiation
(D) Gametogenesis → Syngamy → Gamete transfer → Zygote cell division (cleavage) → cell differentiation → organogenesis

144. **Assertion:** The placenta is connected to the embryo through an umbilical cord.
**Reason:** The umbilical cord helps in the transport of substances to and from the embryo.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true, but reason is not the correct explanation of assertion.
(C) Assertion is true, but reason is false.
(D) Both assertion and reason are false.

145. **Assertion:** Placenta also acts as an endocrine gland.
**Reason:** In the later phase of pregnancy, relaxin is secreted by placenta.

(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true, but reason is not the correct explanation of assertion.
(C) Assertion is true, but reason is false.
(D) Both assertion and reason are false.

146. **Assertion:** The first movements of foetus are observed during the third month of pregnancy.
**Reason:** By the end of first trimester, eyelids separate and eye-lashes are formed.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true, but reason is not the correct explanation of assertion.
(C) Assertion is true, but reason is false.
(D) Both assertion and reason are false.

Para-3.7

Parturition and Lactation

147. The duration of pregnancy is called
(A) parturition (B) lactation (C) gestation period (D) none of these

148. The process of delivery of the foetus is called
(A) lactation (B) parturition (C) foetal ejection reflex (D) none of these

149. The signals for parturition originate from the
(A) fully developed foetus (B) placenta (C) umbilical cord (D) both (A) and (B)

150. Match Column-I with Column-II and choose the correct option from the codes given below.

| **Column I** | **Column II** |
|---|---|
| (a) Gestation period | (1) Mild uterine contractions |
| (b) Parturition | (2) Duration of pregnancy |
| (c) Foetal ejection reflex | (3) Process of delivery of the foetus |
| (d) After birth | (4) Placental expulsion |

**Codes**

| | A | b | C | d |
|---|---|---|---|---|
| (A) | 2 | 3 | 1 | 4 |
| (B) | 2 | 4 | 1 | 3 |
| (C) | 4 | 3 | 2 | 1 |
| (D) | 1 | 2 | 3 | 4 |

151. The process of milk production is called
(A) lactation (B) parturition (C) after birth (D) colostrum

152. Choose the incorrect statement from the following
(A) Parturition is induced by a complex neuroendocrine mechanism.
(B) The foetal ejection reflex triggers release of oxytocin from the hypothalamus.
(C) Oxytocin acts on the uterine muscles.
(D) The placenta is also expelled out of

153. Which of the following hormones is responsible for both the milk ejection reflex and the foetal ejection reflex? [Odisha, NEET-2019]
(A) Relaxin (B) Estrogen (C) Prolactin (D) Oxytocin

154. The milk produced during the initial few days of lactation is called
(A) colostrum (B) first milk (C) milky water (D) none of these

155. Choose the incorrect statement from the following. [NCERT Exemplar]
(A) Internal fertilisation takes place, in birds and mammals.
(B) Colostrum contains antibodies and nutrients.
(C) Polyspermy is prevented by chemical changes on the egg surface.
(D) In the human female implantation occurs almost seven days after fertilisation.

156. Colostrum contains
(A) antibodies (B) nutrients (C) enzymes (D) both (A) and (B)

157. **Assertion:** Parturition is a complex neuroendocrine mechanism.

**Reason:** The signals of parturition originate from the fully developed fetus and placenta.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true, but reason is not the correct explanation of assertion.
(C) Assertion is true, but reason is false.
(D) Both assertion and reason are false.

158. **Assertion:** The mammary glands of the female undergo differentiation after parturition.
**Reason:** Lactation always starts after childbirth.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true, but reason is not the correct explanation of assertion.
(C) Assertion is true, but reason is false.
(D) Both assertion and reason are false.

159. **Assertion:** Breast-feeding during the initial period of infant growth is recommended.
**Reason:** During initial few days after delivery, colostrum is produced.
(A) Both assertion and reason are true and reason is the correct explanation of assertion.
(B) Both assertion and reason are true, but reason is not the correct explanation of assertion.
(C) Assertion is true, but reason is false.
(D) Both assertion and reason are false

## NEET PREVIOUS YEARS QUESTIONS

1. Match the items given in column I with those in column II and select the correct option given below **[2018]**

| **Column I** | **Column II** |
|---|---|
| A. Proliferative phase | I. Breakdown of endometrial lining |
| B. Secretory phase | II. Follicular phase |
| C. Menstruation | III. Luteal phase |

| | A | B | C |
|---|---|---|---|
| (a) | III | II | I |
| (b) | I | III | II |
| (c) | III | I | II |
| (d) | II | III | I |

2. Hormones secreted by the placenta to maintain pregnancy are: **[2018]**
(a) hCG, hPL, progestogens, prolactin.
(b)hCG, hPL, estrogens, relaxin, oxytocin.
(c) hCG, progestogens, estrogens, glucocorticoids.
(d) hCG, hPL, progestogens, estrogens.

3. The amnion of mammalian embryo is derived from: **[2018]**
(a) Ectoderm and mesoderm.
(b) Endoderm and mesoderm.
(c) Ectoderm and endoderm.
(d) Mesoderm and trophoblast.

4. The difference between spermiogenesis and spermiation is that **[2018]**
(a) in spermiogenesis spermatids are formed, while in spermiation spermatozoa are formed.
(b) in spermiogenesis spermatozoa are formed, while in spermiation spermatids are formed.
(c) in spermiogenesis spermatozoa are formed, while in spermiation spermatozoa are released from sertoli cells into the cavity of seminiferous tubules.
(d) in spermiogenesis spermatozoa from sertoli cells are released into the cavity of seminiferous tubules, while in spermiation spermatozoa are formed.

5. Capacitation occurs in **[2017]**
(a) epididymis. (b) vas deferens. (c) female reproductive tract. (d) rete testis.

6. Select the incorrect statement. **[2016]**
(a) FSH stimulates the sertoli cells which help in spermiogenesis. (b) LH triggers ovulation in ovary.
(c) LH and FSH decrease gradually during the follicular phase.
(d) LH triggers secretion of androgens from the Leydig cells.

7. Fertilisation in humans is practically feasible only if **[2016]**
(a) the sperms are transported into vagina just after the release of ovum in fallopian tube.
(b) the ovum and sperms are transported simultaneously to ampullary isthmic junction of the fallopian tube.
(c) the ovum and sperms are transported simultaneously to ampullary - isthmic junction of the cervix.
(d) the sperms are transported into cervix within 48 hrs of release of ovum in uterus.

8. Which of these is not an important component of initiation of parturition in humans? **[2015]**
(a) Synthesis of prostaglandins. (b) Release of oxytocin.
(c) Release of prolactin. (d) Increase in estrogen and progesterone ratio.

9. In human females, meiosis-II is not complete until ________. **[2015]**
(a) fertilisation (b) uterine implantation (c) birth (d) puberty

10. Which of the following events is not associated with ovulation in human female? **[2015]**
(a) Full development of Graafian follicle (b) Release of secondary oocyte
(c) LH surge (d) Decrease in estradiol

11. Which of the following cells during gametogenesis is normally diploid? **[2015]**
(a) Spermatid (b) Spermatogonia (c) Secondary polar body (d) Primary polar body

12. The main function of mammalian corpus luteum is to produce: **[2014]**
(a) Estrogen only. (b) Progesterone. (c) Human chorionic gonadotropin. (d) Relaxin only.

13. The shared terminal duct of the reproductive and urinary system in the human male is __________. **[2014]**
(a) urethra (b) ureter (c) vas deferens (d) vasa efferentia

14. Select the correct sequence of transport of sperm cells in male reproductive system **[NEET-2019]**
(1) Testis → Epididymis → Vasa efferentia → Rete testis → Inguinal canal → Urethra
(2) Seminiferous tubules → Rete testis → Vasa efferentia → Epididymis → Vas deferens → Ejaculatory duct → Urethra → Urethral meatus
(3) Seminiferous tubules → Vasa efferentia → Epididymis → Inguinal canal → Urethra
(4) Testis → Epididymis → Vasa efferentia → Vas deferens → Ejaculatory duct → Inguinal canal → Urethra → Urethral meatus

15. Extrusion of second polar body from egg nucleus occurs : **[NEET-2019]**
(1) after entry of sperm but before fertilization (2) after fertilization
(3) before entry of sperm into ovum (4) simultaneously with first cleavage

16. Select the correct sequence of events : **[NEET-2019 ODISSA]**
(1) Gametogenesis → Gamete transfer → Syngamy → Zygote → Cell division (Cleavage) → Cell differentiation → Organogenesis
(2) Gametogenesis → Gamete transfer → Syngamy → Zygote → Cell division (Cleavage) → Organogenesis → Cell differentiation
(3) Gametogenesis → Syngamy → Gamete transfer → Zygote → Cell division (Cleavage) → Cell differentiation → Organogenesis

(4) Gametogenesis →Gamete transfer →Syngamy →Zygote →Cell differentiation →Cell division
(Cleavage) →Organogenesis

17. Which of the following hormones is responsible for both the milk ejection reflex and the foetal ejection reflex ? **[NEET-2019 ODISSA]**
(1) Estrogen (2) Prolactin (3) Oxytocin (4) Relaxin

18. No new follicles develop in the luteal phase of the menstrual cycle because **[NEET-2019 ODISSA]**
(1) Follicles do not remain in the ovary after ovulation
(2) FSH levels are high in the luteal phase
(3) LH levels are high in the luteal phase
(4) Both FSH and LH levels are low in the luteal phase

19. In human beings, at the end of 12 weeks (first trimester) of pregnancy, the following is observed: **[NEET-2020 COVID]**
(1) Eyelids and eyelashes are formed
(2) Most of the major organ systems are formed
(3) The head is covered with fine hair
(4} Movement of the foetus

20. Match the following columns and select the correct option : **[NEET-2020 COVID]**

| Column - I | Column - II |
|---|---|
| (a) Ovary | (i) Human chorionic Gonadotropin |
| (b) Placenta | (ii) Estrogen &Progesterone |
| (c) Corpus luteum | (iii) Androgens |
| (d) Leydig cells | (iv) Progesterone only |

(1) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i) (2) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)
(3) (a)-(i), (b)-(iii), (c)-(ii), (d)-(iv) (4) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

21. Select the correct option of haploid cells from the following groups : **[NEET-2020 COVID]**
(1) Primary oocyte, Secondary oocyte, Spermatid
(2) Secondary spermatocyte, First polar body, Ovum
(3) Spermatogonia, Primary spermatocyte, Spermatid
(4) Primary spermatocyte, Secondary spermatocyte, Second polar body

22. Identify the wrong statement with reference to the gene 'I' that controls ABO blood groups **[NEET-2020]**
1) Allele 'i' does not produce any sugar
2) The gene (I) has three alleles
3) A person will have only two of the three alleles
4) When $I^A$ and $I^B$ are present together they express same type of sugar

23. Which of the following hormone levels cause release of ovum (ovulation ) from the graffian follicle? **[NEET-2020]**
1) Low concentration of FSH 2) High concentration of Estrogen
3) High concentration of Progesterone 4) Low concentration of LH

24. Mach the following columns and select the correct option **[NEET-2020]**

| **Column – I** | **Column - II** |
|---|---|
| (a) Placenta | (i) Androgens |
| (b) Zona pellucida | (ii) Human Chorionic Gonadatropin (hCG) |
| (c) Bulbo-urethral glands | (iii) Layer of the ovum |
| (d) Leydig cells | (iv) Lubrication of the Penis |

| | (a) | (b) | (c) | (d) |
|---|---|---|---|---|
| 1) | (ii) | (iii) | (iv) | (i) |
| 2) | (iv) | (iii) | (i) | (ii) |
| 3) | (i) | (iv) | (ii) | (iii) |
| 4) | (iii) | (ii) | (iv) | (i) |

25. Receptors for sperm binding in mammals are present on: **[NEET-2021]**
1) Vitelline membrane 2) Perivitelline space 3) Zone pellucida 4) Corona radiate

26. Which of these is not an important component of initiation of parturition in humans? **[NEET-2021]**
1) Synthesis of prostaglandins 2) Release of Oxytocin
3) Release of Prolactin 4) Increase in oestrogen and progesterone ratio

27. Which of the following secretes the hormone, relaxin, during the later phase of pregnancy? **[NEET-2021]**
1) Corpus luteum 2) Foetus 3) Uterus 4) Graafian follicle

28. Given below are two statements: **[NEET-2022]**
Statement I: The release of sperms into the seminiferous tubules is called spermiation.
Statement II: Spermiogenesis is the process of formation of sperms from spermatogonia.
In the light of the above statements, choose the most appropriate answer from the options given below:
1) Both statements I and Statements II are correct
2) Both statement I and Statement II are incorrect
3) Statement I is correct but Statement II is incorrect
4) Statement I is incorrect but Statement II is correct

29. Which of the following statements are true for spermatogenesis but do not hold true for Oogenesis? **[NEET-2022]**
a) It results in the formation of haploid gametes
b) Differentiation of gamete occurs after the completion of meiosis
c) Meiosis occurs continuously in a mitotically dividing stem cell population
d) It is controlled by the Luteinising hormone (LH) and Follicle Stimulating Hormone (FSH) secreted by the anterior pituitary
e) It is initiated at puberty
**Choose the most appropriate answer from the options given below:**
1) (c) and (e) only 2) (b) and (c) only
3) (b), (d) and (e) only 4) (b), (c) and (e) only

30. At which stage of life the oogenesis process is initiated? **[NEET-2022]**
1) Puberty 2) Embryonic development stage
3) Birth 4) Adult

## NCERT LINE BY LINE QUESTIONS – ANSWERS

| 1) B | 2) C | 3) B | 4) D | 5) A | 6) B | 7) D | 8) B | 9) A | 10) D |
|---|---|---|---|---|---|---|---|---|---|
| 11) A | 12) A | 13) A | 14) C | 15) B | 16) B | 17) B | 18) C | 19) D | 20) A |
| 21) B | 22) C | 23) B | 24) D | 25) A | 26) B | 27) A | 28) C | 29) B | 30) C |
| 31) D | 32) A | 33) C | 34) B | 35) A | 36) B | 37) A | 38) B | 39) A | 40) B |
| 41) C | 42) B | 43) A | 44) C | 45) B | 46) C | 47) D | 48) A | 49) A | 50) B |
| 51) D | 52) C | 53) C | 54) A | 55) D | 56) B | 57) D | 58) A | 59) C | 60) B |
| 61) D | 62) A | 63) C | 64) A | 65) A | 66) C | 67) C | 68) A | 69) C | 70) A |
| 71) D | 72) C | 73) A | 74) B | 75) C | 76) D | 77) D | 78) C | 79) D | 80) A |
| 81) D | 82) D | 83) B | 84) D | 85) A | 86) C | 87) B | 88) C | 89) C | 90) A |
| 91) A | 92) B | 93) B | 94) C | 95) A | 96) D | 97) C | 98) A | 99) B | 100) A |
| 101) D | 102) B | 103) C | 104) B | 105) C | 106) D | 107) B | 108) A | 109) A | 110) B |
| 111) B | 112) C | 113) A | 114) A | 115) A | 116) B | 117) D | 118) A | 119) A | 120) B |
| 121) B | 122) A | 123) A | 124) C | 125) B | 126) B | 127) A | 128) C | 129) D | 130) D |
| 131) D | 132) C | 133) D | 134) D | 135) A | 136) C | 137) C | 138) B | 139) D | 140) B |
| 141) C | 142) A | 143) B | 144) B | 145) C | 146) D | 147) C | 148) B | 149) D | 150) A |
| 151) A | 152) B | 153) D | 154) A | 155) C | 156) D | 157) B | 158) A | 159) A | |

## NEET PREVIOUS YEARS QUESTIONS-ANSWERS

1 (d) 2 (d) 3 (a) 4 (c) 5 (c) 6 (c) 7 (b) 8 (c) 9 (a) 10 (d)
11 (b) 12 (b) 13 (a) 14 (2) 15 (1) 16 (1) 17 (3) 18 (4) 19 (2) 20 (4)
21 (2) 22 (4) 23 (2) 24 (1) 25 (3) 26 (3) 27 (1) 28 (3) 29 (4) 30 (2)

## NEET PREVIOUS YEARS QUESTIONS-EXPLANATIONS

1. (d) 2. (d) 3. (a) 4. (c) 5. (c) 6. (c) 7. (b) 8. (c)

9. (a) Meiosis-II does not complete untill fertilisation occurs in females (in human being).

10. (d)

11. (b) During gametogenesis, spermatogonia are diploid because of undergoing the process of meiosis.

12. (b)

13. (a) Urethra is a tube that connects the urinary bladder to the genitals for the removal of fluids from the body. The urethra travels through the penis, and carries semen as well as urine.

22. ABO blood groups are controlled by the gene I. The gene I has three alleles $I^A$, $I^B$ and i. The alleles $I^A$ and $I^B$ produce different form of the sugar while allele i does not produce any sugar.

23. High concentration of Estrogen cause the release of ovum (ovulation ) from the graffian follicle.

24. (a) Placenta secretes human chorionic gonadotropin (hCG)
(b) Zona pellucida is a primary egg membrane secreted by the secondary oocyte
(c) The secretions of bulbourethral glands help in lubrication of the penis
(d) Leydig cells synthesise and secrete testicular hormones called androgens

**25. Receptors for sperm binding in mammals are present on zona pellucida**

**26.** * At the end of gestation, the completely developed foetus is expelled out. This process is called parturition.
* Parturition is controlled by a complex neuroendocrine mechanism.
* Estrogen and progesterone ratio increases as estrogen levels rise significantly.
* Prostaglandins, which stimulate uterine contractions are also produced that act on myometrium.
* Oxytocin, the main hormone, also called as birth hormone is released by maternal pituitary, which brings about strong uterine contractions.
*** Prolactin is a lactation hormone that has no role in initiation of parturition**

27. The hormone relaxin is produced in the later phase of pregnancy. It is produced by the ovary.
* Graafian follicle is not formed when the woman is pregnant.
* Uterus and foetus do not produce relaxin.
* Relaxin is produced by the corpus luteum present in the ovary. Ruptured Graafian follicle is called corpus luteum, which has endocrine function

**28.** I) Spermiation which is a process sperms are released from seminiferous tubule.
II) Spermiogenesis is promoted by FSH where seprmatids convert into sperms

**29** Statements b, c, & e are exclusively for spermatogenesis

**30** Oogenesis is initiated at embryonic stage

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**Team**
**School of Educators**

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Mathematics

Science

English

Hindi-A

IT Code-402

Hindi-B

Artificial Intelligence

## Senior Secondary Groups (XI & XII For Teachers Only)

Physics

Chemistry

English

Mathematics

Biology

Accountancy

Economics

BST

History

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## Secondary Groups (IX & X)

## Senior Secondary Groups (XI & XII For Students Only)

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2. Help your fellow educators by answering their queries.
3. Watch and engage with shared videos in the group.
4. Distribute WhatsApp group resources among your students.
5. Encourage your colleagues to join these groups.

**Additional notes:**

1. Avoid posting messages between 9 PM and 7 AM.
2. After sharing resources with students, consider deleting outdated data if necessary.
3. It's a NO Nuisance groups, single nuisance and you will be removed.
   - No introductions.
   - No greetings or wish messages.
   - No personal chats or messages.
   - No spam. Or voice calls
   - Share and seek learning resources only.

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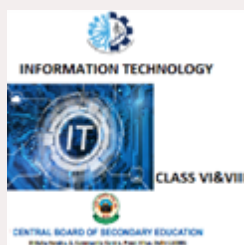
# SKILL MODULES BEING OFFERED IN MIDDLE SCHOOL

Artificial Intelligence

Beauty & Wellness

Design Thinking & Innovation

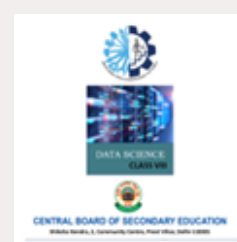
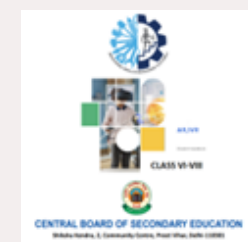
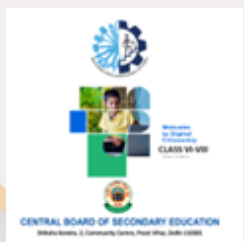
Financial Literacy

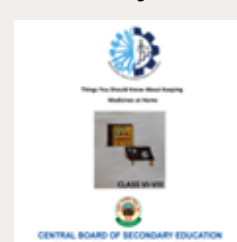
Handicrafts

Information Technology

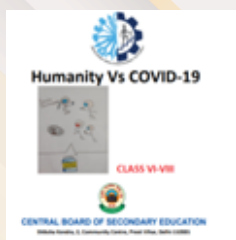
Marketing/Commercial Application

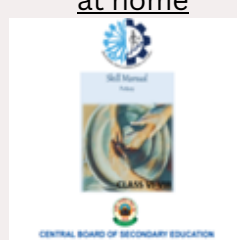
Mass Media - Being Media Literate

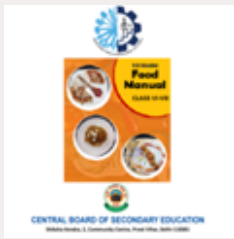
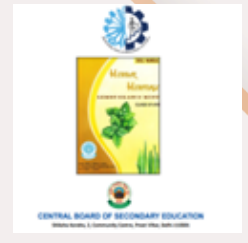
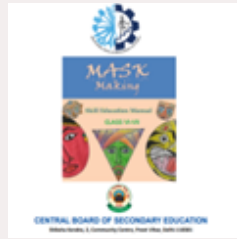
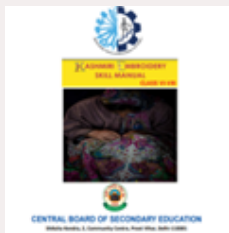
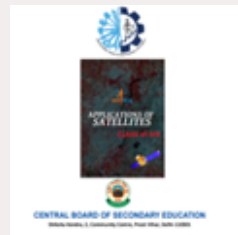
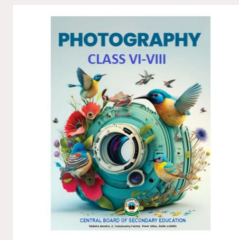
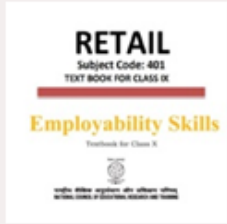
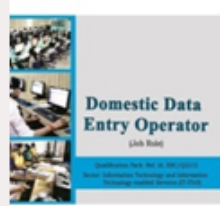
Travel & Tourism

Coding

Data Science (Class VIII only)

Augmented Reality / Virtual Reality

Digital Citizenship

Life Cycle of Medicine & Vaccine

Things you should know about keeping Medicines at home

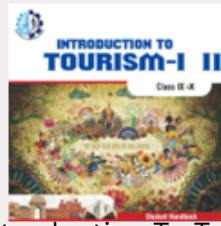
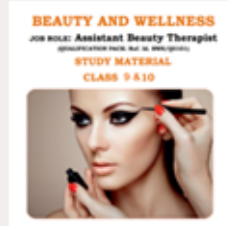
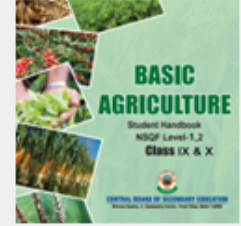
What to do when Doctor is not around

Humanity & Covid-19

Blue Pottery

Pottery

Block Printing

# SKILL SUBJECTS AT SECONDARY LEVEL (CLASSES IX – X)

Retail

Information Technology

Security

Automotive

Introduction To Financial Markets

Introduction To Tourism

Beauty & Wellness

Agriculture

Food Production

Front Office Operations

Banking & Insurance

Marketing & Sales

Health Care

Apparel

Multi Media

Multi Skill Foundation Course

Artificial Intelligence

Physical Activity Trainer

Data Science

Electronics & Hardware (NEW)

Foundation Skills For Sciences (Pharmaceutical & Biotechnology)(NEW)

Design Thinking & Innovation (NEW)

# SKILL SUBJECTS AT SR. SEC. LEVEL (CLASSES XI – XII)

Retail

InformationTechnology

Web Application

Automotive

Financial Markets Management

Tourism

Beauty & Wellness

Agriculture

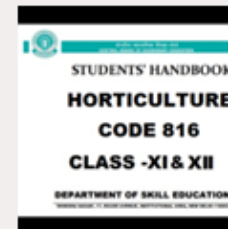
Food Production

Front Office Operations

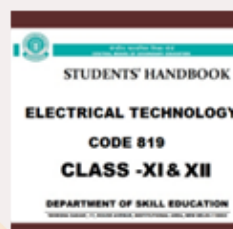
Banking

Marketing

Health Care

Insurance

Horticulture

Typography & Comp. Application

Geospatial Technology

Electrical Technology

Electronic Technology

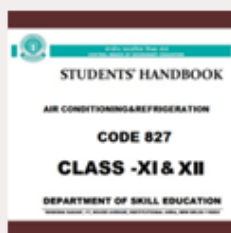
Multi-Media

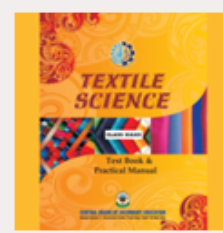
Taxation

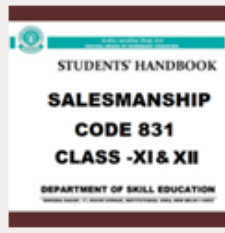
Cost Accounting

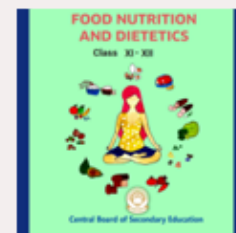
Office Procedures & Practices

Shorthand (English)

Shorthand (Hindi)

Air-Conditioning & Refrigeration

Medical Diagnostics

Textile Design

Design

Salesmanship

Business Administration

Food Nutrition & Dietetics

Mass Media Studies

Library & Information Science

Fashion Studies

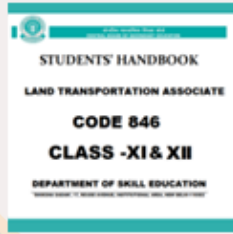
Applied Mathematics

Yoga

Early Childhood Care & Education

Artificial Intelligence

Data Science

Physical Activity Trainer(new)

Land Transportation Associate (NEW)

Electronics & Hardware (NEW)

Design Thinking & Innovation (NEW)